**Unit 5 Map (Cell Structure and Transport)**

Ms. Ottolini, AP Biology

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| **Topic** | **Learning Target** | **DBA Score** (%) | **Test Score** (%) |
| 1. Cell Types and Cell Structure | A. I can compare and contrast prokaryotic vs. eukaryotic cells. |  |  |
| B. I can summarize the theory of endosymbiosis and provide pieces of evidence from real cells / organelles to support this theory. |  |  |
| C. I can describe the structure and function of organelles found within cells. |  |  |
| D. I can describe the movement of cell products (ex: proteins) through the endomembrane system. |  |  |
| 2. Cell Membrane and Transport. | E. I can describe the organization of phospholipid molecules in the cell membrane and explain why they arrange themselves this way. |  |  |
| F. I can connect the structure of the lipid bilayer with the semi-permeable nature of the cell membrane. |  |  |
| G. I can describe the structure and function of proteins, carbohydrates, and cholesterol in the cell membrane. |  |  |
| H. I can describe how the structure and properties of the membrane gave it the name “fluid mosaic model.” |  |  |
| I. I can compare and contrast types of transport across the cell membrane—simple diffusion, facilitated diffusion, osmosis, and active transport. |  |  |
| J. I can predict the direction of water movement during osmosis based on the concentrations of solute and water in two adjacent solutions |  |  |
| 3. Calculations – Water Potential and Cell Size (Surface Area to Volume Ratio) | K. I can predict the direction of water movement based on water potential calculations. |  |  |
| L. I can calculate surface area to volume ratios for various cell shapes and determine which cell has the highest efficiency from a group of cells with different shapes and sizes. |  |  |
| M. I can describe various strategies within different cell types for increasing surface area to volume ration and improving the efficiency of cell transport (ex: microvilli in small intestinal cells). |  |  |